UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/578,766	05/04/2007	Paul Benjamin Buckwalter	11336/1043 (P03085US)	6154

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

	Application No.	Applicant(s)
Office Action Summary	10/578,766	BUCKWALTER, PAUL BENJAMIN
	Examiner	Art Unit	
	JASON RECEK	2442	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>25 February 2010</u>.
2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1-11,13-53,55-60 and 68-75</u> is/are pending in the application.
     4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) <u>1-11,13-53,55-60 and 68-75</u> is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
     a) ☐ All   b) ☐ Some * c) ☐ None of:
       1. ☐ Certified copies of the priority documents have been received.
       2. ☐ Certified copies of the priority documents have been received in Application No. _____.
       3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
     * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date <u>25 February 2010</u>.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____ .

DETAILED ACTION

This is in response to the RCE filed on February 25th 2010.

Continued Examination Under 37 CFR 1.114

1.   A request for continued examination under 37 CFR 1.114, including the fee set

forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this

application is eligible for continued examination under 37 CFR 1.114, and the fee set

forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action

has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 2/25/10

has been entered.

Status of Claims

Claims 1-11, 13-53, 55-60 and 68-75 are pending.

Response to Arguments

2.   Applicant's arguments, see pg. 26-27, have been fully considered and are

persuasive but do not overcome the rejection. Specifically, the argument that Gross

does not teach a multi-tasking operating system is persuasive. However Dinallo clearly

discloses a multi-tasking operating system (col. 1 ln. 10-15). Therefore, the rejection is

upheld since the combination discloses a network interface driver executable within the multi-tasking operating system as recited by the claim.

3.   Applicant's arguments, see pg. 27-28 have been fully considered but they are not persuasive. Applicant argues that Gross does not disclose the data packets are unrelated to the isochronous audio data (pg. 17). This argument is not persuasive. Applicant acknowledges the asynchronous data includes control signals but then concludes these are associated with the audio data. This conclusion misconstrues the reference. First the portion cited by applicant (col. 4 ln. 55-59) is optional, it states "it **may** be used to pass i/o signals associated with synchronous data. The portion of Gross cited by examiner (col. 6 ln. 30-36) does not teach or suggest this data is related to the audio data. It discloses control signals that are sent to a supervisor software module. Second, the reservation requests mentioned by applicant are not "related" to the audio data. Reservation requests are control signals that relate to routing, bandwidth, queuing and transmitting data (col. 14 ln. 35-65). It is not a reasonable interpretation to say these signals are related to audio data because at some point in the future audio data may be subsequently sent over a reserved connection. There is no relation between the control signals being presently transmitted / received and the future audio data. Therefore, Gross discloses the data packets are unrelated to the audio data as recited by the claim.

4.   Applicant's arguments, see pg. 28-29, have been fully considered and are persuasive. Specifically, the argument that Gross does not disclose the new limitation "the network interface driver … being in response to said interrupt request provided to

the network interface by the multi-tasking operating system" is persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Katseff et al. US 2001/0009554 A1.

5.   Applicant's arguments concerning Dinallo (pg. 29-30) have been fully considered but are not persuasive. Dinallo is only relied upon for teaching drivers and interrupts executing in a multi-tasking operating system environment. Thus the assertion that Dinallo does not make up for the deficiencies of Gross is unpersuasive.

6.   Applicant's arguments concerning Anttila (pg. 30) are similar and not persuasive for the same reasons. Anttila is only relied upon for teaching a protocol stack. Thus the assertion it does not disclose "a network interface driver ..." and other limitations upon which Gross is relied upon for teaching is not persuasive.

7.   Applicant's arguments regarding claim 2 (pg. 31) have been fully considered but the rejection is not overcome. Applicant's arguments are persuasive, that is Gross does not teach "the multi-tasking operating system executes ..." however Dinallo discloses a multi-tasking operating system as discussed above. Therefore the combination discloses the claim limitations.

8.   Applicant's arguments regarding claim 3 (pg. 31) have been fully considered but they are not persuasive. Applicant asserts Gross does not disclose "the network interface driver, audio driver and audio application are executed sequentially without interruption". This is not persuasive. Gross teaches performing processing upon receipt of data (col. 6 ln. 17-25, col. 14 ln. 14-35). Such processing involves the network interface, audio software and audio i/o and recited by the claims. There is no

teaching of an "interruption" thus Gross discloses "without interruption" as recited by the claims.

9.   Applicant's arguments regarding claim 5 (pg. 31-32) have been fully considered but they are not persuasive. Applicant asserts modifying the references with Windows alters the principle operation and therefore this combination cannot be made. This argument is not persuasive. Dinallo teaches a multi-tasking operating system but does not explicitly disclose "Windows". Such a multi-tasking operating system can be combined with Gross. It seems applicant is arguing that an operating system such as Windows, Unix, or Linux would not be able to process audio data. This is obviously incorrect. Gross discloses it can work on simply controllers, but this does not mean it cannot work on an operating system as suggested by applicant.

10.   Applicant asserts (pg. 32-38) claims 11, 13-19, 20, 21-28, 29, 30-33, 34, 35-41, 42, 43-50, 51, 52-53, 55-57, 58 and 59-60 are not disclosed by the combination of references for the foregoing reasons. The arguments that were persuasive above are persuasive for the same reasons and likewise the arguments that were not persuasive remain not persuasive for the foregoing reasons.

Claim Rejections - 35 USC § 101

11.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-10 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.   Regarding claim 1, it is a "system" claim which is

normally patentable as a machine or manufacture. However, in the instant case no

physical hardware elements are recited by the claim. Thus, under the broadest

reasonable interpretation the claim could consist entirely of software. Software per se is

not patentable subject matter. Claims 2-10 do not cure this deficiency, therefore they

are rejected based on their dependency.

Claim Rejections - 35 USC § 103

12.   The text of those sections of Title 35, U.S. Code not included in this action can

be found in a prior Office action.

13.   Claims 1-8, 11, 13-25, 28-36, 38-40, 42-49, 51, 53-60 and 68-75 are rejected

under 35 U.S.C. 103(a) as being unpatentable over Gross et al. US 5,761,430, Dinallo

et al. US 5,487,167 and Antilla US 2001/0037382 A1 and Katseff et al. US

2001/0009554 A1.

Regarding claim 1, Gross discloses "operating system for execution of a plurality

of applications" (Fig. 2b, Col. 5 ln. 37-40), "an isochronous audio application" (col. 6, ln.

25-28), "a network interface" (fig. 2b, col. 5 ln. 40-45), send and receive, "stream of

packets includes data packets and isochronous audio packets" (col. 5 ln. 46 - col. 6 ln.

2, col. 6 ln. 25-27), "transmission of the isochronous audio packets is in response to

receipt of a respective synchronization packet" synchronization (col. 2 ln. 44-52), "the

data packets are unrelated to the isochronous audio data" data packets contain control

signals which are used for function unrelated to the audio data (col. 6 ln. 30-36, col. 14

ln. 35-65), "an isochronous audio driver" (Fig. 2b, col. 5 ln. 37-40), "decodes

isochronous audio packets" and "pass the data packets unmodified to the other

applications" (col. 6 ln. 22-38).

Gross does not explicitly teach "a multi-tasking operating system" or drivers

"executable within the multi-tasking operating system" however this is taught by Dinallo

as a multimedia transport mechanism including a multitasking operating system (col. 4l

n. 8-26). It would have been obvious to one of ordinary skill in the art at the time of the

invention to modify Gross with the teachings of Dinallo to incorporate a "multi-tasking

operating system". Dinallo suggests that operating systems should support multimedia

data (col. 1 ln. 47-51). A multi-tasking operating system is well known in the art (as

evidenced by Dinallo) and yields predictable results. Thus this is merely the

combination of known elements according to their established function in order to yield

a predictable result.

The combination of Gross and Dinallo does not explicitly disclose "a protocol

stack" however this is taught by Anttila as using a protocol stack to transfer data

(paragraph 19). It would have been obvious to one of ordinary skill in the art at the time

of the invention to modify the combination of Gross and Dinallo to include a protocol

stack as taught by Anttila. Protocol stacks are well known in the art and yield

predictable results. Thus this is merely the combination of a known element according

to its established function in order to yield a predictable result.

The combination of Gross, Dinallo and Anttila does not explicitly disclose "the network interface driver is executable to provide the stream of packets ... in response to an interrupt provided ... by the multi-tasking operating system" however this is taught by Katseff as an operating system sending a network interrupt which signals the processing of a message including routing the message (paragraph 34, Fig. 6). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combination of Gross, Dinallo and Anttila with the operating system generated interrupt taught by Katseff for the purpose of processing data. Gross and Dinallo already disclose using interrupts to handle network communications. Thus this combination is merely the combination of known elements (multi-tasking operating system and interrupts) according to their established function in order to yield a predictable result.

Regarding claim 2, Gross discloses in response to "only one interrupt" (Fig. 2b - Interrupt Handler) executing applications (col. 5 ln. 45-65). Although Gross may receive multiple interrupts it certainly does not teach that it is only responsive when multiple interrupts are received. In fact, Gross clearly states "interrupt handler is invoked any time there is **an** event ..." suggesting the system is responsive to only one interrupt request as recited by the claim.

Regarding claim 3, Gross discloses applications executed sequentially (col. 6 ln. 17-25) as initiating the necessary applications upon receipt of a packet,

Regarding claim 4, Gross discloses "synchronization packets" (Fig. 3, col.3 ln. 59-61).

Regarding claim 5, Gross does not explicitly disclose the multi-tasking operating system is "Windows, Unix or Linux" however these are well known in the art and yield predictable results. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combination of Gross Dinallo and Anttila to use one of these operating systems. It is merely the combination of a known element according to its established function in order to yield a predictable result. See Dinallo (col. 1 ln. 62-64).

Regarding claim 6, Gross discloses "remove a header" that includes information, source address, etc. as packets that contain addresses and other data (col. 5 ln. 60 - col. 6 ln. 7).

Regarding claim 7, it corresponds to claim 4 and thus is rejected for similar reasons.

Regarding claim 8, Gross discloses "Ethernet packets" (Fig. 2b, col. 2 ln. 5-8).

Claims 11, 13-14, 16-17 and 19 correspond to the dependent claims 1-4 and 6-8, thus they are rejected for similar reasons.

Claims 15, 28 and 30 correspond to claim 5, thus they are rejected for similar reasons.

Regarding claims 18, 45, 56 and 59, Gross does not explicitly disclose TCP/IP however this is well known in the art and it yields predictable results. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combination of Gross, Dinallo and Anttila to comply with this specification for the purpose of sending data. It is merely the combination of a well-known element according to its established function in order to yield a predictable result.

Regarding claim 20, some of the subject matter corresponds to claim 1 and is rejected for similar reasons. Gross also discloses "a memory and a processor" (col. 4 ln. 20-24), transmitting packets and "generate an isochronous audio packet" (col. 3 ln. 59—col. 4 ln. 3).

Regarding claim 21, Gross discloses requesting audio data when the buffer is not full (col. 6 ln. 8-55).

Regarding claim 22, it corresponds to claim 4 and thus is rejected for similar reasons.

Regarding claim 23, Gross discloses "a compact disc" (col. 4 ln. 48-55).

Regarding claim 24, Gross discloses formatting packets (col. 6 ln. 40-50).

Regarding claim 25, Gross discloses storing and transmitting data (col. 6 ln. 30-50).

Claims 29 and 51 correspond to the system of claim 20 and thus are rejected for similar reasons.

Claims 31-33 all recite features of the operating systems claimed in claim 5, thus they are rejected for similar reasons.

Claims 34-36 and 39-40 correspond to claims 1-3 and 7-8, thus they are rejected for similar reasons.

Claim 38 corresponds to claim 23, thus is it rejected for similar reasons.

Claims 42-44, 46 and 48-49 correspond to claims 1-4, 7-8 and 11-14, thus they are rejected for similar reasons.

Regarding claim 47, Gross does not explicitly disclose "IEEE 802.3 standard" however this is well known in the art and it yields predictable results. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Gross to comply with this specification for the purpose of sending data. It is merely the combination of a known element according to its established function in order to yield a predictable result.

Claims 53-55 and 57 corresponds to claims 2 and 6-8, thus they are rejected for similar reasons.

Claim 58 corresponds to claim 1, thus it is rejected for similar reasons.

Regarding claim 68, Gross suggests "the data packets are formatted in accordance with a first protocol and the isochronous audio packets are formatted in accordance with a second protocol" by teaching that isochronous data is audio/video and asynchronous data is control signals (col. 4 ln. 17-39). This is also taught by Anttila as multiple audio and transmission protocols (paragraphs 4-5).

Regarding claim 69, it is a method that corresponds to the system of claim 1,

therefore the corresponding parts are rejected for similar reasons. Gross also discloses

"generating a first interrupt request ... by the network interface in response to receipt of

the stream of packets" as a network interrupt handler is invoked when there is an event

(receipt of packets) on the network (col. 5 ln. 45-52), "network interface driver ... provide

a first interrupt request ... in response to receipt of one of the synchronization packets"

(col. 5 ln. 45-52). Gross does not explicitly disclose "multi-tasking operating system"

however this is taught by Dinallo as discussed above. Gross does not explicitly disclose

"operating system provides a second interrupt request to the network interface"

however an OS generated interrupt is taught by Katseff as discussed above.

Regarding claim 70, Gross discloses "determining whether a packet is an

isochronous audio packet" as checking for isochronous packets (col. 14 ln. 14-15).

Regarding claim 71, Gross discloses "extracting audio data" as pulling data from

a buffer and processing (col. 6 ln. 22-25).

Regarding claim 72, Gross discloses "passing the isochronous audio packets to

the isochronous audio application" as an application receiving audio data (col. 4 ln. 48-

50).

Regarding claim 73, Gross does not explicitly disclose "extracting audio data ...

in response to the receipt of the second interrupt request (provided by the OS)" however

this is taught by Katseff as processing (extracting) data in response to an interrupt from

the operating system (paragraph 34, Fig. 6). The motivation to combine is given above.

Regarding claim 74, it corresponds to claim 3, therefore it is rejected for similar

reasons.

Regarding claim 75, Gross discloses "isochronous audio packets are transmitted

in response to a receipt of a synchronization packet" as clock signals synchronize

synchronous data (col. 5 ln. 5-12), and "data packets are not" as asynchronous data

(col. 6 ln. 30-32). By definition, asynchronous data is not synchronized, thus it is not

transmitted in response to synchronization as recited by the claim.

14.   Claims 9 and 37, 50 and 52 are rejected under 35 U.S.C. 103(a) as being

unpatentable over the combination of Gross, Dinallo, Anttila and Katseff as applied to

claim 1 above, and further in view of Shay et al. US 2007/0153774 A1.

Regarding claim 9, Gross discloses "isochronous audio packets include

isochronous audio data" (col. 6 ln. 25-26) and "the isochronous audio packets are

decoded to extract the isochronous audio data and convert the isochronous audio data

to audio data (col. 14 ln. 25-30). The combination of Gross, Dinallo and Anttila does not

explicitly disclose "a CobraNet specification" however this is well known in the art and is

taught by Shay (paragraph 16) Therefore, it would have been obvious to one of

ordinary skill in the art at the time of the invention to modify the combination to use this

specification for the purpose of sending audio streams. This is merely the combination

of a known element according to its established function in order to yield a predictable

result.

Claims 37, 50, 52 and 60 correspond to claim 9, thus they are rejected for similar

reasons.

15.   Claims 10, 27 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable

over the combination of Gross, Dinallo, Anttila and Katseff as applied to claim 1 above,

and in further view of Smyers US 2001/0001564 A1.

Regarding claim 10, Gross does not explicitly disclose "only uncompressed audio

data" however this is taught by Smyers as a method for separating audio data from a

stream of data as in the present invention (paragraph 27).

It would have been obvious to one of ordinary skill in the art at the time of the

invention to modify Gross to include the uncompressed feature of Smyers for the

purpose of passing audio data. Smyers suggests that certain components only

understand uncompressed data and thus it is necessary to only pass uncompressed

data (paragraph 27).

Claims 27 and 41 correspond to claim 10 and thus are rejected for similar

reasons.

16.   Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over the

combination of Gross, Dinallo, Anttila and Katseff in further view of Ruberg US

6,675,054 B1.

Regarding claim 26, Gross does not explicitly disclose "the resolution",

"frequency" or "number of channels" however this is taught by Ruberg as a method of

supporting audio by using the resolution, frequency and channels (abstract).

It would have been obvious to one of ordinary skill in the art at the time of the

invention to modify the combination of Gross, Dinallo and Anttila to include the

teachings of Ruberg for the purpose of audio protocol identification. Ruberg teaches

that when the audio format is known the proper processing can be applied (abstract).

Conclusion

17.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

Krishnaswamy et al. US 7,493,657 B1 discloses a NIC generating an interrupt

upon receiving data and subsequently causing an operating system to invoke an

interrupt routine (Fig. 3).

Glasser et al. US 2005/0108392 A1 discloses an operating system generating an

interrupt (paragraph 39).

Hanes US 2004/0268359 A1 discloses communicating with a peripheral device

via interrupts generated by the OS (paragraph 14).

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to JASON RECEK whose telephone number is (571)270-

1975. The examiner can normally be reached on Mon - Fri 9:00am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Philip Lee can be reached on (571) 272-3967. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

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Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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